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A REVIEW OF RECENT DEVELOPMENTS IN THE SECOND ECONOMY IN TANZANIA

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and
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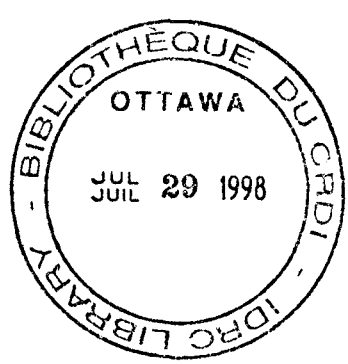
OMIC RESEARCH CONSORTIUM

POUR LA RECHERCHE ECONOMIQUE EN AFRIQUE

A review of recent developments in the second economy in Tanzania



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Abstract

The official National Accounts of Tanzania suffer from two serious weaknesses: incomplete coverage as well as inaccurate estimates of the activities covered. This arises because many of the activities, especially those in the informal sector, are either misreported or under-recorded. Often, however, the required information is deliberately concealed from public authorities either because the agents are involved in illegal (black market) activities or where such (parallel market) activities are legal, there is a deliberate intention to evade government controls. The misstatement and omission of these 'second economy' activities from official statistics imply that macroeconomic measures are not robust enough for meaningful analysis, development planning, policy and programme formulation. This paper attempts to examine the nature and magnitude of the second economy in Tanzania to establish the extent to which official series misstate actual production of goods and services.

I Introduction

One of the major problems of analyzing African economies is the absence of reliable, accurate and consistent official statistics (Yeats, 1990). In Tanzania, for example, although the official national accounts are carefully compiled broadly following the conventional guidelines of the UN System of National Accounts, the existing official series are still limited. The series suffer from two weaknesses: incomplete coverage as well as inaccurate estimates of the activities covered.

In some cases omission of some activities from official national accounts is deliberate because of accounting conventions. In others, however, omissions from national accounts occur by chance or oversight. At times, misreporting or under-reporting is caused by deficiencies in estimation methods (especially the failure to value correctly some of transactions that are recorded). Misreporting also occurs because of difficulties associated with data collection, particularly where activities are not easily accessible. Often, however, the required information is deliberately concealed or hidden from public authorities, either because the agents are involved in forbidden illegal activities or, where such activities are legal, there is a deliberate intention to avoid paying taxes, to evade price controls, or to avoid paying social security and medical insurance contributions.

Since macroeconomic policies are influenced by estimates from the national accounts, the omission or undue reporting of certain economic activities could easily lead to faulty policy analysis.

Gross domestic product (GDP) growth, savings, consumption, productivity and balance of payments estimates may be biased and could result in the wrong conclusions about the manipulation of monetary and fiscal policy instruments. Moreover, it is not possible to make sense of income distribution without taking account of, for example, informal sector incomes. With wage earners resorting to unrecorded food provisioning and trade, and farmers resorting to non-farm income, including remittances, it becomes misleading to take formal wages or prices in rural areas as even proxy indicators of welfare or income distribution (Jamal and Weeks, 1988).

This paper examines the nature and estimates the magnitude of the second economy in Tanzania to establish the extent to which official national accounts

misstate actual or real production of goods and services. Section II sets up the conceptual framework and defines the concepts, and in Section III recent developments in the major components of the second economy are discussed. In Section IV, model specification and empirical results on the size of the second economy are presented and analysed, and the conclusion is presented in Section V.

II Conceptual framework

The concept of a second economy is also variously known as the underground, parallel, unofficial, shadow, black, or irregular economy, has many definitions and interpretations.[1] In is paper, the second economy is defined broadly to include all economic activities which should be included in national income but are presently not captured by official national accounts statistics.[2] Such second economy activities usually fall outside government benefits and regulations.

In conceptualizing the second economy, it is convenient to group the many and diverse perceptions of it into two main contrasting views. One view stresses its dysfunctional aspects and regards the second economy as clandestine; a sector that denies the state of its legitimate revenue needs, serves as a breeding ground for theft and fraud and is inequitable and exploitative (Wiles, 1987). According to this view, the second economy is irrational and represents undesirable departures from established economic and social norms or equilibrium.

The other view regards second economy activities as productive and creative adaptations to social or market forces working towards socioeconomic harmony or equilibrium. Such behaviour is conceived to have developed in response to a consumer's basic needs and the failure of the formal official system to deliver in time the goods and services required; and/or as a revolt against excessive state intervention. According to this view, the second economy is not a pathological fact but a kind of nature's revolt, a sort of healthy reaction to the pathology of the state (Del Boca and Fortes, 1982).

The dysfunctional approach to the study of the second economy – as an entirely illegal sector – fails to distinguish socially and economically productive activities that constitute a potential asset to the development of the economy from those that are unproductive and harmful. Such a view is based on a narrow conceptualization of the sector. It is consequently instructive to perceive the second economy in its broader context. With some degree of overlap, this allows one to classify second economy activities into three broad categories: informal sector, parallel, and black market activities.

Informal sector activities

In this paper, 'informal sector' refers to small-scale units producing and distributing goods and services, consisting of both employed workers and self-employed persons in rural and urban areas. They are informal in the sense that they are for the most part unregistered; unrecorded in official statistics; have little or no access to organized markets, to credit institutions, to formal education and training or to many public services. As they are often not recognized or supported by government they are compelled by circumstances to operate outside the framework of the law.

Informal sector activities are socially and economically worthwhile productive activities and services normally initiated with the honest (legal) objective of producing a product or offering a service for sale or own use. These activities genuinely contribute to an increase in the total output of goods and services. Although in some cases the means used in performing these activities may not comply with legal requirements (for example, quality and health standards), the activities have highly desirable objectives such as building a house, manufacturing a product or providing a service.

Parallel market activities

Parallel market activities involve the illegal production and trade of goods and services that are legal in themselves, and therefore have an alternative legal market. Such activities usually develop in response to excessive government intervention and restriction which creates excess demand or supply. For example, when a tax rate per article is high there is a tendency for tax evasion and if the risks for evading taxes are not prohibitive, supply and demand may clear at a price which is lower than the tax-paid price. Similarly, higher duties on imports create an incentive to under-report imports while subsidies may encourage exporters to over-invoice shipments. Price controls, import licensing and credit restrictions amidst shortages and inflation create excess demand which sets up a queue of people willing to buy goods and services at higher unofficial prices. Higher parallel market prices motivate producers and traders to divert part of their output to the unofficial market.

Managed exchange rates and foreign exchange rationing often cause overvaluation, which creates excess demand for foreign currency and gives rise to parallel market transactions in convertible currencies. In addition, over-valued domestic currency creates an incentive to under-invoice exports if exporters have to surrender foreign exchange at the official (low) rate. Similarly, importers may be encouraged to over-invoice to obtain excess foreign currency and sell the bal-

ance on the parallel market or bank it abroad and use it to finance own imports. Control over interest rates results in excess demand for credit at official rates giving rise to curb markets. Parallel labour markets may also develop where government imposes minimum wages and employee benefits.

Whatever their form, the principal objective of parallel market activities is to amass illegitimate profit, i.e., reap scarcity rents by not following price directives, quota restrictions, ration coupons or confinement of sale of certain commodities to public monopolies.

Black market activities

These activities produce and/or distribute market and non-market goods that are illegal and strictly forbidden by government statutes. They include smuggling, over- and under-invoicing, unlicensed deals in arms, narcotics trafficking and all sorts of illegal transfers, for example, thefts and bribes.

In conclusion, it is important to note that although the terms informal, parallel and black markets are often employed interchangeably, it is instructive to treat them as describing different phenomena. They also have different implications for policy. However, one thread that weaves its way through all the three sets of activities is their absence in official national accounts.

III Recent developments in the second economy

Developments in the informal sector

In Tanzania, there has always been a considerable amount of household level economic activity which has fallen outside the system of official control. The efforts in the late 1960s and early 1970s to measure subsistence activities in the national accounts reflected an effort to take account of some part of that activity in official statistics. However, in the early days of national accounting, subsistence activities were seen as predominantly rural, mainly traditional, economic activities which had not yet been drawn into the market economy, or those involving purely local transactions unrecorded in official surveys.

As real wages fell dramatically and migration continued, the informal sector began to incorporate a diverse range of urban activities as urban areas grew in the 1970s and 1980s. These urban activities have increased greatly in range and quantity in recent years. A survey carried out in 1990 revealed that in Dar-es-Salaam, the country's largest city, the number of informal sector enterprises were estimated to be at least three times the level of the mid-1980s. Most of the enterprises surveyed had, moreover, more than doubled their employment levels between 1984 and 1990 (World Bank, 1991). A nationwide sample survey of Tanzania's Zanzibar Islands revealed that the informal sector there employed 39% of the total estimated (320,030) labour force in 1990; while in mainland Tanzania, results of a country-wide survey showed that in 1991 the sector employed 23% of the total estimated (10.3 million) labour force.

The rapid growth of Tanzania's informal sector in the 1980s is consistent with the evidence for most of Sub-Saharan Africa[3] and can be explained from three perspectives. First is the erosion and compression of formal wages and salaries. Real wages and salaries, especially of government and public sector employees, have fallen drastically over time. The real value of the average civil service wage in 1986 was less than 18% of its real value in 1975 and could cover only about one-quarter of the required expenses of a typical household (World Bank, 1991).

Table 1 gives further evidence of the erosion of real wages. In 1986 the real minimum wage and the real value of the average top bracket civil service wage were only 46% and 27.8% respectively of the real wages prevailing in 1980. These figures suggest that, on average, higher income earners, appear to have suffered more from falling purchasing power than low income earners, leading to a narrowing in occupational wage differentials. Compression in the wage structure is further reflected in the decline of the ratio of the average top bracket civil service real wage to the real minimum wage over time.

Table 1 Trends in real wages and per capita income in Tanzania, 1980-90

Year	Real urban minimum wage (Tsh) (1)	Top bracket civil service average real[1] wage (2)	Ratio of top bracket real wage to minimum wage (3) = (2/1)	Kg of maize flour for a day's minimum wage in Dar (4)	Real per capita income[2] Tsh (1976 prices) (5)	Ratio of real minimum wage to real per capita income (6) = (1/5)	Ratio of top bracket civil service average real wage to real per capita income (7)
1980	291	5150	17.7	12.8	1250	0.23	4.12
1981	279	4985	17.9	6.7	1133	0.25	4.40
1982	228	3877	17.0	8.0	1255	0.18	3.09
1983	185	2978	15.6	8.0	1167	0.16	2.55
1984	212	1529	7.0	3.4	1171	0.18	1.31
1985	145	1897	13.1	2.0	1172	0.12	1.62
1986	134	1433	10.7	2.6	1181	0.11	1.21
1987	137	1356	9.9	2.9	1186	0.12	1.14
1988	127	1220	9.6	2.9	1203	0.11	1.01
1989	123	1073	8.7	3.5	1223	0.10	0.88
1990	113	966	8.5	2.2	1273	0.08	0.76

Notes: [1]Nominal figures deflated by the National Consumer Price Index (1977 = 100); [2] Nominal figures deflated by the implicit GDP deflator (1976 = 100).
Sources: Tanzania Economic Survey (various issues); Bureau of Statistics; Ministry of Labour and Youth Development.

The figures in Table 1 understate the true fall in real wages as many goods were either unobtainable or were obtainable only at parallel market prices. A rather disturbing picture emerges when the decline of the real minimum wage is expressed in terms of the amount of maize flour (the country's leading staple) that could be purchased by a day's minimum wage (Table 1). While in 1980 one day's minimum wage could purchase 12.8 kg of maize flour, in 1987 it could earn only 2.9 kg. This implies a significant decline of 77% in the real purchasing power of the minimum wage between 1980 and 1987. Moreover, the fall in the average real wage was not only particularly severe but was also long-lasting.

The last two columns in Table 1 indicate that between 1980 and 1990 real wages have, on average, fallen more rapidly than per capita income, suggesting that a heavy burden of the recent economic crisis has been borne by wage and salary earners. As a consequence, the public sector and civil service employees, having failed to obtain a living wage from formal employment, have also resorted to alternative informal means of economic survival.

In rural areas, a parallel of the informalization process in the urban areas has taken place with a deterioration in rural incomes. As the economic crisis deepened, the non-availability of basic incentive goods in rural areas was aggravated by official rationing (Bevan *et al.*, 1989). Concurrently, appreciation in the real exchange rate reduced the real prices of cash crops. Agriculture was stagnating in the face of weaknesses in the transport and marketing systems and the subsequent rising marketing margins of the official systems that resulted in large transfers from peasants to the state (Ellis, 1982). As a consequence, average rural incomes per household are estimated to have fallen by 47.9% over the period 1977-83. Real rural wage rates also declined substantially over the period. The average off-farm wage in 1980 was about Tsh36 per day compared to Tsh42 per day in 1983 – a fall in real terms of 29% (Collier *et al.*, 1986). The high rate of inflation (averaging 30% annually) and the high rate of implicit taxation on the export crops (through currency over-evaluation) destroyed the parity between export crops and food crops inducing farmers to switch from cash to food crops which could also be easily traded in the parallel market. As real farm incomes declined consistently, farmers began to derive an increasing part of their cash incomes from non-farm sources, including migrant remittances giving rise to a thriving rural informal sector (Jamal and Weeks, 1988).

The second source of informal sector growth in Tanzania has been the stagnation in formal wage employment. Modern sector employment accounted for a relatively insignificant small share of only 6.9% of the total active labour force in 1978. This share is estimated to have grown only marginally to about 7.1% in 1988. At the same time, the total labour force is estimated at 10 million at the end of 1988, increasing at nearly 3% percent per annum. This implies 300,000 new entrants into the labour market. However, actual formal employment has absorbed less than 15,000 per annum since the mid-1980s. In fact, total wage employment, which nearly doubled in absolute terms between 1975 and 1984, declined from a peak of 732,209 in 1984 to 711,800 in 1989. Even in the parastatal sector, the largest employer in the formal sector, employment more than doubled between 1976 and 1985 and then declined from a peak of 191,751 to 182,620 in 1989. Quite clearly, the growth of the labour force has outpaced by far the growth of the formal economy, confirming the gravity of the employment problem confronting the country.

There are indications that the rapidly growing labour force and declining wage employment has caused rising unemployment in Tanzania (ILO, 1991). In urban areas, levels of unemployment have been exacerbated by the rural to urban migration of the past three to four decades[4]; and the failure by most of the urban-based modern activities to absorb a significant portion of the growing labour force because of their greater capital and import intensive technologies.

The rapid growth in informal sector employment in recent years has been made possible by a number of developments. On the labour demand side, the government has reduced its previously prohibitive stance towards the informal sector. On the labour supply side, the sector has drawn its workers from a growing pool of unemployed resulting from the 1985 retrenchment of 27,291 civil service workers, a government freeze on employment growth following the adoption of the economic recovery programme and increased female participation caused by the hardships of the economic crisis (ILO, 1991).

The combined effects of falling real wages, stagnating employment levels, poor prospects for growth of formal wage employment, retrenchment of civil service employees and the rapidly growing labour force have increased dependence on the informal sector as a source of employment, income and survival. Consequently, in Tanzania, the growth of informal sector activities should be seen as representing mainly legitimate survival strategies adopted in the face of declining incomes and growing unemployment. They aim to raise income for subsistence or to generate additional surplus for future capital accumulation. The sector can thus be viewed as a creative response to the state incapacity to satisfy the basic needs of the majority poor.

Developments in parallel markets

The Arusha Declaration of February 1967 committed the Tanzanian government to future policies revolving around four themes: socialism, rural development, self reliance and economic growth. In pursuit of these goals there was a series of nationalizations not only of the strategic activities of the economy in the manufacturing industry, finance, commerce, mining construction, export-import trade and crop marketing but also, paradoxically, the less important retail trading activities such as privately-owned butcheries, rural shops, rented buildings and estate farms. Even in rural areas, a villagization (Ujamaa Villages) programme was put in place to collectivize peasant agriculture. Thereafter, government intervention increasingly assumed the form of promoting new public institutions and the active use of a wide range of economic policy instruments[5].

The overall result has been the dramatic expansion of the public sector beyond its technical and managerial capacities – an expansion which has invariably been

associated with proliferation of unproductive bureaucracies and financial loss. The number of public organizations (parastatals) increased from about 43 in 1966to 380 by 1979 and about 425 by mid-1980s. In relative terms, only in countries as large as Brazil (six times the population and 50 times the GDP of Tanzania) and Mexico (3.6 times the population and 35 times the GDP) can one find such a large number of parastatals (World Bank, 1988).

It is widely believed and extensively documented that the excessive government intervention and inappropriate macro-policies led to an acute shortage of goods and services and an associated rapid increase in prices, in both the controlled and uncontrolled markets[6]. The situation worsened during the post-1979 foreign exchange crisis and lead to the development of parallel markets as producers and consumers went underground and sought to evade expensive, excessively complex and time consuming official controls.

Available evidence, though patchy, suggests that up to the mid-1970s parallel market activities were not significant in Tanzania (Odegaard, 1985). However, pervasive price controls, the confinement of goods to inefficient parastatal monopolies, strict foreign exchange regulations and import licensing have exacerbated the development of parallel market activities, especially up to the mid-1980s. Odegaard (1985) suggests that between 1978 and 1982 about 70% of marketed maize was sold in the parallel market annually, contrary to government regulation. Estimates by the Marketing Development Bureau (MDB) lend support to these estimates by revealing that between 1971 and 1987 about two-thirds of marketed maize, and over four-fifths of marketed rice were sold through the unofficial markets. Other surveys by Maliyamkono and Bagachwa (1990) and Bevan *et al.* (1989) confirm these findings.

Likewise, there is evidence that foreign exchange rationing and overvaluation of the shilling have stimulated parallel markets for hard currencies. Table 2 shows developments in the official, parallel and computed real exchange rates. It is quite evident that the extent of apparent overvaluation, that is, the percentage which the official parity value of the shilling exceeds its parallel rate value, was at levels above 200% for the period 1981-86, peaking at 477% in 1985. The extent of overvaluation appears to have been reduced significantly after 1986 through a series of currency devaluations. A similar picture emerges from the computed real exchange rate which shows a significant appreciation of the shilling between 1977 and 1985, the year just before the adoption of the economic recovery programme (ERP).

Table 2 Tanzania: official, parallel and real exchange rates, 1970-91(TSh per US $1)

Year	Official rate period (1)	Unofficial rate period average (2)	Apparent over-valuation average % (3)=(2/1)(100)-1	Real exchange rate[1] (4)	Nominal equivalent exchange rate [2] (5)
1970	7.14	10.10	41.5	9.30	6.37
1971	7.14	11.60	62.5	9.32	6.35
1972	7.14	15.20	112.9	9.06	6.54
1973	7.02	14.53	107.0	8.67	6.71
1974	7.14	13.46	88.5	8.36	7.08
1975	7.37	20.58	179.2	7.53	8.11
1976	8.38	21.93	161.7	8.65	8.02
1977	8.29	21.47	159.0	8.29	8.29
1978	7.71	13.07	69.5	7.43	8.60
1979	8.22	11.98	45.7	7.59	8.97
1980	8.20	21.02	156.3	6.49	10.48
1981	8.28	26.57	220.8	5.74	11.96
1982	9.28	32.60	251.6	5.37	14.33
1983	11.14	39.62	255.7	5.34	17.29
1984	15.29	57.08	273.3	5.67	22.35
1985	17.47	100.80	477.0	5.03	28.81
1986	32.70	165.00	404.6	7.27	37.29
1987	64.26	180.00	180.1	11.32	47.07
1988	99.29	210.00	111.5	13.76	59.83
1989	143.38	250.00	74.4	16.47	72.17
1990	195.07	300.00	53.8	19.61	82.46
1991	225.00	365.00	62.2	n.a	n.a

Notes:

[1] Real exchange rate (*RER*) is computed as:

$$RER = NOER \left(\frac{CPIIC}{CPITZ}\right) RER = NOER\left(\frac{CPIIP}{CPITZ}\right).$$

where

NOER is the nominal official exchange rate of the Tsh to the US dollar
CPIIC is the consumer price index for industrialized countries; and
CPITZ is the consumer price index for Tanzania

[2] Nominal equivalent exchange rate (*NEER*) i.e., the rate that would have maintained a constant real exchange rate at the 1977 level is defined as:

$$NEER = NOER_{77} \left(\frac{CPITZ}{CPIIC}\right) NEER = NOER_{77}\left(\frac{CPITZ}{CPIIC}\right).$$

where

$NOER_{77}$ is Tanzania's nominal official exchange rate in 1977; and *CPITZ* and *CPIIC* are as defined above.

Source: *Pick's Currency Yearbook* for parallel rates up to 1986; Maliyamkono and Bagachwa(1990) for parallel rates between 1987-89; *Business Times* (Tanzania) for parallel rates for 1990-91; and Bank of Tanzania for official rates.

Black market activities

Hard data on the volume of black market activities in Tanzania is difficult to find. The study by Maliyamkono and Bagachwa (1990) used the value of goods seized by customs officials to estimate the magnitude of illegal imports and exports. Goods seized by customs are normally those which have been illegally imported or exported or have otherwise contravened the Customs Management Act by misreporting of value, weight, volume, quantity or description. According to the estimates, illegal exports and imports as proportions of official exports and imports were estimated to be 3.6 and 10% respectively in 1985.

However, these figures grossly understate the real magnitude of illegal exports and imports. For example, in another study, it was estimated that in 1989, two-thirds of gold and gemstone production was sold in the black market (Bagachwa *et al.,* 1989). The same study revealed that the illegal sale of wildlife trophies earned US$148 million in foreign exchange, contrasted to the official foreign exchange earnings of about US$2.8 million. About 90% of marketed cardamom and 12% of marketed coffee is smuggled out of the country annually. Parallel revenue from tourism was estimated at US$69.3 million, three times the value of official foreign exchange earnings from the entire sector. Unregistered housing services provided by individuals to expatriates denied government of an estimated US$33 million in 1988 alone.

Another glimpse at the magnitude of parallel exports can be obtained by examining the volume of own-funded imports. Imports under this category are funded with the importer's own foreign exchange. When the scheme started in 1984 it was thought that the accumulated foreign exchange by residents (obtained mainly through parallel markets) would be exhausted within a year. This has not been the case. Import licenses issued under own funds doubled within a span of four years from US$252 million (19% of total import licenses) in 1984 to US$638 million (35.1% of total import licenses) in 1988. Although figures for 1991 show that this declined to US$494 million (i.e., 29% of total import licenses), this value is still significant. According to Mbelle *et al* (1991), about 90% of own-funded imports are financed by unofficial foreign exchange earnings from illegal exports.

Over- and under-invoicing of imports and exports are other manifestations of black market transactions. Maliyamkono and Bagachwa (1990) found that in 1985 about 18.7% (about US$177 million) of total official imports were under-invoiced and that in 1986, Tanzania's exports were under-invoiced by 17% (i.e., about US$49 million). Yeats (1990) said the volume of unrecorded (smuggled and under-invoiced) exports from Tanzania could be immense and revealed that while reported exports to other Sub-Saharan African countries in 1983 of US$19 million, those same countries reported imports from Tanzania of US$70 million.

IV Estimating the size of the second economy

Estimation method and model specification

The methodology for estimating the second economy has been a growing subject of debate[7]. In Tanzania, the nature and dynamics of the second economy have been analyzed extensively by Maliyamkono and Bagachwa (1990). However, despite this pioneering work, new estimates are required for two reasons.

First, the Maliyamkono-Bagachwa estimates were made for the 1975-86 period. There is a need, therefore, to update the estimates to cover the 1986-90 period. Since the 1986-90 period has been associated with the initial stages of the implementation of the market-oriented Economic Recovery Programme (ERP) reforms, it will be instructive in gauging the impact of liberalization policies on the development of the second economy. Second, the Maliyamkono-Bagachwa study estimated the size of the second economy using the currency-demand deposit (*C-DD*) ratio as suggested by Gutmann[8]. However, problems associated with this method are enormous, as readily acknowledged by the authors[9].

To improve the validity of the estimates, a more flexible and elaborate econometric method based on a demand for currency equation and its modified versions will be used (Tanzi, 1982; 1983; Isachsen *et al.*, 1982; May, 1985). A useful feature of this is its recognition of other explanatory factors other than changes in second economic transactions which can explain the behaviour of currency hoarding. Although the approach still assumes that the second economy transactions are primarily undertaken in the form of cash payments that avoid detection, it is somewhat flexible in that it does not assume constancy in the *C-DD* ratio and in addition the results are not sensitive to the choice of the initial period.

The approach is based on the demand for currency. Cagan (1958), following the arguments by Baumol (1952) and Tobin (1956), was the first to use the transactions demand for currency approach. He identified the following major determinants for currency holdings:

1. The opportunity cost of holding currency;
2. The expected real income per capita;
3. The volume of retail trade;
4. The volume of travel per capita;
5. The degree of urbanization; and
6. The level of income taxation.

In addition, Isachsen *et al.* (1982) argued for the inclusion of the Mitchell-Hawtrey effect in the analysis of the determinants of the transactions demand for currency. According to that effect, two factors influence the relative use of currency over the business cycle. In the first, relatively more currency is required per unit of transaction in retail transactions than in other types of transactions. Second, the increase in the share of wage incomes relative to total factor incomes should result in cash use increase, as usually wages are paid in cash rather than in cheques, which are more normally used in other forms of factor incomes.

In a generalized form the demand for currency equation may be stated as:

$$\ln DC = f(X_1, X_2, \ldots, X_n; X_{n+1}, \ldots, X_t) + \ln U \tag{1}$$

where DC is the demand for currency as measured by any of the cash-demand deposit ratio (*C-DD*), the cash-narrow money ratio ($C\text{-}M_1$) the cash-broad money ratio ($C\text{-}M_2$) or real currency holdings (*RC*). $X_1, \ldots, X_n$ are the logarithms of variables traditionally considered to be the major determinants in the demand for currency; the $X_{n+1}, \ldots, X_t$ are the logarithms of the proxies for variables that stimulate second economy activity; U is the stochastic disturbance term.

When the variables that stimulate second economy activity disappear, i.e., when $X_{n+1} = \ldots X_t = 0$, then the regression equation yields the estimate of the demand for currency of the formal economy. It is then possible to estimate currency holdings with or without second economy activity. The difference gives an estimate of the currency held in the second economy which, when multiplied by the income velocity of money, gives an indication of the size of the second economy.

The demand for currency equation for Tanzania was initially specified as:

$$\begin{aligned} \ln RC = {} & a_0 + a_1 \ln YR + a_2 \ln RIR + a_3 \ln RPFC \\ & + a_4 \ln NBCI + a_5 \ln INFL + a_6 \ln(1 + GVI) \\ & + a_7 \ln(1 + ATR) + a_8 \ln POER + \ln U. \end{aligned} \tag{2}$$

where,

RC	=	real currency holdings, i.e., nominal currency deflated by the National Consumer Price Index (*NCPI*);
YR	=	real income, i.e., nominal income deflated by GDP deflator;
RIR	=	real interest rate on savings deposits, equal to the difference between nominal interest rate on savings deposits and the rate of inflation;
RPFC	=	the ratio of private final consumption expenditure to total expen diture on GDP;
NBCI	=	the index of the number of National Bank of Commerce branches;
INFL	=	the rate of inflation;
GVI	=	the ratio of parastatal employees over total employees, a measure of government intervention;
ATR	=	the average tax rate, equal to the ratio of the sum of income and corporate taxes to the sum of compensation of employees and operating surplus;
POER	=	the ratio of parallel exchange rate to the official one; and
U	=	the error term.

As can be seen, Equation (2) includes as arguments the real income *YR* which is used as the transactions variable and is expected to bear a positive sign; and the opportunity cost variables of holding currency in lieu of holding alternative financial assets (e.g., savings deposits) and physical assets (e.g., commodities), i.e., *RIR* and *INFL* respectively. These are expected to change conversely to the level of currency holdings. The share of private final consumption expenditure in national income (*RPFC*) represents the Mitchell-Hawtrey effect and, when it increases, forces people to hoard more currency in order to meet relatively increased purchases of goods and services.

Increases in the number of commercial banking branches (*NBCI*) facilitate widespread access to banking services and induce the public to put their savings into interest-earning financial assets or to open up bank accounts to avoid theft, fire, etc. The remaining variables, *GVI*, *ATR*, and *POER*, stand to capture the amount of currency necessary to run the underground activities. The first variable, *GVI*, is a proxy for government intervention and regulation in the production and distribution of goods and services. When the government tightens its controls over economic activities, excess demand or supply will develop which will drive operators into informal activities.

The second variable, *ATR*, is proxy to measure how much currency is held as a result of income tax evasion. The last variable, *POER*, captures the contribution of the parallel market in raising public holding of currency due to overvaluation

of the domestic currency. The discrepancy between the official and the parallel exchange rates and control of the foreign exchange market stimulate not only the parallel market for hard currencies but also other forms of illegal transactions such as smuggling, under-invoicing of exports and over-invoicing of imports, etc.

Empirical results

Based on data from the period 1968 to 1990, Equation (2) was estimated by using the ordinary least squares method (OLS). Within the broad framework of the general functional form, alternative variables and proxies were used during trial estimations[10]. To solve the equation for a situation where second economy activities are assumed to be absent, relevant tax and government intervention variables are equated to zero and replaced by their values plus one. The best results were obtained for Equation (3):

$$\ln RC = -16.350 + 2.377 \ln YR - 0.828 \ln NBCI + 0.227 \ln(1 + GVI) + 15.990 \ln(1 + ATR) \quad (3)$$

$$(-3.476)(4.882) \qquad (-5.083) \qquad (1.7390) \qquad (7.503)$$

$$\bar{R}^2 = 0.90 \quad DW = 1.44 \quad F - statistic = 49.503$$

Values in parentheses are the t-values.

The estimated Equation (3) appears quite robust. The $\bar{R}^2$ is impressively high (0.90) implying that most of the variation in RC is explained by the estimated equation. In all cases except one $(1 + GVI)$, the t-values for the coefficients are statistically significant at the 1% level. The t-value for the coefficient $(1 + GVI)$ is significant at the 10% level. All coefficients have correct signs. The absence of first order auto-correlation is indicated by the value of the DW statistic and was confirmed on the basis of the Lagrangean multiplier (LM) test[11]. A comparison of variances between the two periods and the results of the Ramsey RESET test suggested the absence of heteroscedasticity[12]. The Chow F test confirmed the parameter stability when the estimation period was divided between the period before and after the adoption of the economic recovery programme in 1986[13]. The overall results appear fairly reasonable and provide a firm basis for further analysis of the effect of the second economy on currency holdings.

Table 3 Estimates of the second economy in Tanzania, 1968-90

Year	Actual currency (Tsh million) (1)	Estimated: Legal currency (Tsh million) (2)	Estimated: Illegal currency (Tsh million) (3)	Estimated: Total currency (4)	Estimated: Income velocity (5)	Estimated: Second economy (SE) GDP (Tsh million) (6)	Second Economy GDP as % of official GDP: Econo-metric (Tanzi) (7)	Second Economy GDP as % of official GDP: Gutmann (8)
1968	528.6	289.7	208.3	498.3	6.78	1413.1	19.7	6.1
1969	605.0	337.1	279.2	616.3	5.88	1641.3	22.0	1.7
1970	818.4	426.9	378.6	805.6	6.38	2416.1	29.4	22.7
1971	986.4	481.5	513.6	995.0	5.70	2928.1	33.1	20.8
1972	1201.1	566.2	630.7	1197.1	5.93	3739.0	37.3	30.0
1973	1198.6	546.2	662.8	1209.0	5.41	3588.2	31.2	10.7
1974	1517.3	555.9	912.1	1468.1	5.62	5121.9	36.6	12.1
1975	1755.8	716.3	1320.4	2036.7	5.24	6914.0	40.7	16.6
1976	2071.3	877.6	1445.0	2322.7	5.23	7560.9	34.9	2.8
1977	2379.1	935.8	1615.9	2551.7	5.20	8407.9	32.7	0.3
1978	2915.2	974.6	1807.2	2781.8	5.85	10571.3	37.0	9.8
1979	4055.4	1143.9	2398.8	3542.8	4.27	10239.8	31.9	2.9
1980	5245.4	1570.5	3516.2	5086.7	3.87	13617.7	36.4	3.6
1981	6616.0	1934.7	4263.4	6198.1	4.10	17461.7	39.8	10.3
1982	7988.7	2491.6	5324.9	7816.5	4.10	21815.2	41.5	11.5
1983	8194.2	2924.7	5619.4	8544.0	4.09	23002.4	36.7	4.6
1984	10472.4	3856.6	6466.7	10323.4	5.61	36298.8	46.5	28.3
1985	12719.0	5263.9	8016.7	13280.6	6.07	48636.8	45.0	26.6
1986	18309.7	7088.1	10110.2	17198.2	5.73	57921.9	41.1	28.7
1987	24550.8	9699.2	13283.0	22982.2	6.21	82456.2	41.2	31.3
1988	31702.3	13337.8	19527.8	32865.6	6.06	118384.4	41.5	22.1
1989	41094.8	17051.6	28520.6	45572.2	5.75	163918.2	48.9	25.4
1990	57919.1	21169.1	34524.5	55693.6	5.39	186112.2	46.4	31.4

Sources: Bank of Tanzania; *Tanzanian Economic Trends,* Vol. 5 Nos. 1 and 2 (1992); *National Accounts of Tanzania* (various issues); and *Tanzania Economic Survey* (various years).

Size of the second economy

The resulting yearly estimates of the second economy GDP[14] are shown in Table 3. The estimates show a relatively large size for the second economy which rose from modest values of between 20-22% of official nominal GDP in the late 1960s, through 30-39% during the 1970s and early 1980s to reach over 40% between 1984 and 1990. The corresponding shares for 1989 and 1990 were 49% and 46%

respectively. The Tanzi method estimates of the second economy (see Table 3, column 7) are consistently higher than those arrived at using the Gutmann method (column 8).

Table 4 presents the growth of the official, second and total economy GDP in real terms and corresponding yearly changes. A very different picture of total (official plus second economy) GDP emerges from the table. The years of serious

Table 4 Real growth in official and second economies of Tanzania, 1968-90

	Tsh million			Second economy as percentage of		Percentage yearly change		
Year	Official real GDP[1] (1)	Second ec. real GDP[1] (2)	Total real GDP (3) = (1 + 2)	Official real GDP (4)	Total real GDP (5)	Official real GDP % (6)	Second ec. real GDP % (7)	Total real GDP % (8)
1968	14479.8	2849.0	17328.8	19.7	16.4	5.2	-	-
1969	14746.0	3244.2	17990.2	22.0	18.0	1.8	13.9	3.8
1970	15600.1	4588.2	20188.3	29.4	22.7	5.8	41.4	12.2
1971	16254.4	5373.7	21628.1	33.1	24.8	4.2	17.1	7.1
1972	17347.4	6465.5	23812.9	37.3	27.2	6.7	20.3	10.1
1973	17874.9	5582.1	23457.0	31.2	23.8	3.0	-13.7	-5.1
1974	18323.3	6698.9	25022.2	36.6	26.8	2.5	20.0	6.7
1975	19406.0	7898.1	27304.1	40.7	28.9	5.9	17.9	9.1
1976	21652.0	7560.9	29212.9	34.9	25.9	11.6	-4.3	7.0
1977	21739.3	7112.7	28852.0	32.7	24.7	0.4	-5.9	-1.2
1978	22001.4	8137.4	30138.8	37.0	27.0	1.2	14.4	4.5
1979	22755.4	7255.1	30010.5	31.9	24.2	3.4	-10.8	-0.4
1980	23419.0	8514.8	31933.8	36.4	26.7	2.9	17.4	6.4
1981	23301.0	9267.0	32568.0	39.8	28.5	-0.5	8.8	2.0
1982	23439.2	9731.1	33170.3	41.8	29.3	0.6	5.0	1.8
1983	22886.4	8408.5	31294.9	36.7	26.9	-2.3	-13.6	-5.7
1984	23656.0	10988.7	34644.7	46.5	31.7	3.4	30.7	10.7
1985	24278.0	10925.0	35203.0	45.0	31.0	2.6	-0.6	1.6
1986	25070.0	10308.4	35378.4	41.1	29.1	3.2	-5.6	0.5
1987	26344.9	10841.1	37186.0	41.2	29.2	5.1	5.2	5.1
1988	27459.9	11400.3	38860.2	41.5	29.3	4.2	5.2	4.5
1989	28378.0	13864.7	42242.7	48.9	32.8	3.3	21.6	8.7
1990	29368.1	13639.9	43008.0	46.4	31.7	3.5	-1.6	1.8

Note: [1] Nominal figures deflated by the implicit official GDP deflator.

Sources: Table 3; *Tanzanian Economic Trends*, Vol. 5 Nos. 1 and 2 (1992). *National Accounts of Tanzania* (various issues).

economic decline in the official economy were from 1980 to 1983, while for the total economy they were 1973, 1977, 1978 and 1983. In the two economies, growth appears to have recovered consistently between 1987 and 1989.

However, there appears no clear relationship between the growth of the real official GDP and that of the real second economy GDP. In some years, for example, 1972 and 1984, an upswing in the official economy seems to have stimulated the demand for second economy activities. In others, like 1974 and 1981, low growth in the official economy was associated with increased opportunity to work in the second economy. The computed correlation coefficient for the relation between the real official and second economy growth rates, though positive, is very low (0.22) and not statistically significant from zero, confirming the absence of a relation between the two.

A striking feature in Table 4 is column (5), which indicates the share of the second economy in the total (official plus second) economy. Except for a few minor fluctuations, this share has stayed remarkably constant at around 25-30% throughout the last two decades. This is so even after the introduction of liberalization measures in 1986.

The persistence of a rather stable share of the second economy in the total economy despite the ups and downs in the official economy, could be attributed to the fact that increases in real incomes tend to push people into higher marginal income tax brackets generally, and especially for the period 1968 to 1985. It could also be attributed to the fact that regulations and controls were not relaxed, even during boom periods. Furthermore, because production and distribution of basic goods and services were confined to public sector enterprises, increases in real incomes were being increasingly channelled into investments in the informal sector, which are difficult to tax and control.

The continuing growth of the second economy during the economic recovery programme (1986-90) period is mainly attributed to the dramatic increase of informal sector activities, as explained in Section III. This seems so particularly as some of the liberalization policy measures introduced recently by the government have become official and hence reduced some of the presumably parallel and black market activities[15]. While certain types of parallel and black market activities seem to have declined, others have not. In particular, there appears to be a significant volume of illegal exports to sustain the flow of own funds imports[16].

V Conclusion

The second economy in Tanzania seem to have grown from a low level of 20% of official GDP during the late 1960s to a sizeable proportion of more than 40% after the mid-1980s. Before 1986, measures taken to restrict the expansion of second economy activities took the form of strict enforcement of government controls rather than freeing up operations in the state controlled economy. Over time the second economy has become a major source of livelihood, employment, and incomes for the majority of the households. Since the mid-1980s, government has relaxed various controls and allowed an extended range of consumer goods to enter more freely into the domestic market. The severe shortages common in the past have disappeared. Although the rapid growth of the parallel market and, to some extent, black market components of the second economy characteristic of the mid-1980s has subsequently been halted, the informal sector component continues nevertheless to constitute an important part of the economy as real wages continue to decline and prospects for formal employment dwindle.

The existence of such a sizeable sector of unrecorded domestic and international economic transactions has several implications relevant for policy. First, it suggests that the existing national accounts series are not robust enough for meaningful economic analysis, and for policy and programme formulation. This casts doubt on the reliability of macroeconomic aggregates on which existing policies have been made. Considerable efforts have to be made by the national accounts section in the Bureau of Statistics to establish systematic estimates of the major components of the second economy with a view of incorporating these into the official national accounts series.

Second, the results suggest that the real total economy is more healthy than the gloomy picture painted by official statistics. This puts into question any policy stance with exclusive emphasis on raising domestic production and promoting exports. There is indeed a justifiable need to pay extra attention to the mobilization and use of existing idle and second economy resources. Some of the policy measures under the ERP, such as price decontrol, deconfinement, own funds imports, introduction of exchange bureaux, etc., which attempt to stimulate the flow of resources through the official economy, ought to be effectively

implemented.

Finally, the coexistence of informal, parallel and black market activities in the second economy casts doubt on a blanket policy for the economy. Whereas it is desirable to reduce the extent of parallel and black market activities by reducing the extent of government controls and restrictions, it is equally desirable to promote informal sector activities through selective intervention mechanisms aimed at easing capital, technology and market constraints facing the sector. There is also a need to design an explicit policy for the informal sector. This will help to offset the misconceived and negative attitudes of some government officials and potential investors. It will also provide a more secure and predictable investment climate for the sector.

Notes

1. The diversity of terminology and various concepts used to describe the second economy is reviewed by Tanzi (1982; 1983), Schneider (1986), Wiles (1987), and Bhattacharyya (1990). Roemer and Jones (1991) make a useful distinction between parallel, fragmented and black markets.

2. Our definition of the 'second economy' is very close to that of the 'underground' economy used by Tanzi (1982) and similar to Schneider's (1986) 'hidden' economy.

3. See, for example, ILO (1991) and Vandemoortele (1991) for recent trends in Africa's informal sector.

4. Between 1978 and 1988, annual rates of urban and rural population growth averaged 4.9 and 2.5% respectively (World Bank, 1991).

5. The control mechanisms included: central control of investment planning with restrictive codes on private and foreign investment; administrative allocation of foreign exchange through import licensing; price controls; regulation of interest rates and credit rationing; wage regulation; and confinement of wholesale and retail trade for basic imported and domestic commodities to specified parastatal organizations.

6. See, for instance, studies by Odegaard (1985); Lundahl and Ndulu (1987); Bevan *et al.* (1989; 1990); and Bagachwa (1991; 1992).

7. For a discussion and application of the various methods see Tanzi (1982), Schneider (1986), Bhattacharyya (1990) and Maliyamkono and Bagachwa (1990).

8. The methodology used by P. Gutmann (1977) in computing the size of the

second economy (*SE*) can be reduced to the following formula:

$$SE = \frac{OGDP}{DD * BR} * [M_1 - (DD * BR)]$$

where

OGDP = official GDP;
M_1 = narrow money supply;
DD = demand deposits;
BR = 1 plus the benchmark cash-demand deposit ratio, and
* = a multiplication sign

9. The assumed constancy of the *C-DD* ratio over time, the assumptions that all transactions involving second economy exchanges are paid in cash only, and the absence of second economy activities during the benchmark period are, given the Tanzanian context, highly questionable.

10. Five main equations were estimated using, respectively, the currency-demand deposit ratio (*C-DD*), the currency-money (*C-*M_1 and *C-*M_2) ratios and real currency holdings (*RC*) as dependent variables. The results of the best five equations are summarized in Appendix A. In general, estimates using ratios i.e., *C-DD*, *C-*M_1 and *C-*M_2, exhibited relatively lower $\bar{R}^2$ than those based on . Additionally, in the former estimates, two of the variables that stimulate informality, *GVI* and *ATR*, were consistently insignificant. Subsequent estimation has thus been based on *RC*. In the latter case, three variables i.e., *RPFC*, *INFL* and *POER*, have been dropped from the final estimating equation because they had either wrong signs and/or were statistically insignificant.

11. For the LM test, the calculated values of χ^2 and F(1,17) were equal to 1.7267 and 1.3798 respectively.

12. A comparison of variances for the 1968-79 and 1980-90 periods gave a calculated value of F(7,6) equal to 2.13 while Ramsey's RESET test gave a value of 0.0138.

13. The second Chow test gave an F(23, 13) equal to 0.30.

14. The technique used is that developed by Tanzi (1983). First we estimate total real currency (*TRC*) as predicted by Equation (3). Then predicted real

legal currency (*RLC*) is estimated by dropping the variables (*GVI* and *ATR*) that stimulate informality. The difference (i.e. *RIRC* = *TRC–RLC*) is the real illegal currency. This is then multiplied by the observed transaction velocity of money V, ($V = GDP / M_1$) to obtain an estimate for second economy *GDP*.

15. For example, regular adjustment in the foreign exchange rate and further liberalization of the Open General Licence (OGL) foreign exchange funds have resulted in a significant decline in the extent of overvaluation of the shilling and a corresponding fall in the parallel market premium for dollars (Table 2). The ratio of parallel to official maize prices fell from 2.1 in 1984 to 1.0 in 1988 following the introduction of grain marketing liberalization. Furthermore, beginning in the mid-1980s, trade liberalization removed some of the items like televisions and video recorders from the illegal imports list. Private traders have been allowed to participate in the purchase and distribution of grains and in the export of the previously confined traditional and non-traditional exports. The Central Bank of Tanzania has been allowed to purchase domestic gold (previously traded exclusively in the parallel market) at parallel market prices and as a result, official gold exports rose from 28kg in 1989 to 5,100kg in 1991. Lastly, foreign exchange bureaux licensed to trade currencies at market determined exchange rates began operations in April 1992.

16. Although the share of own funds imports in total import funds has declined from an annual average of 38.2% (1985-88) to 26.6% (1989-91), it nevertheless remains significant, suggesting continued smuggling.

Appendix A: Estimations for demand for currency

Dependent variable	Constant term	Independent variables											
		ln *YCAP*	ln *YR*	ln (1+*RIR*)	ln *RPFC*	ln *NBCI*	ln *INFL*	ln (1+*GVI*)	ln (1+*ATR*)	ln *POER*	$\bar{R}^2$	F-stat	DW
C-DD	15.320	-2.233	-	-	1.243	-	-0.194	-	-	0.265	0.65	8.429	2.299
	(3.116)	(-3.206)			(4.737)		(-3.096)			(3.041)			
$C\text{-}M_1$	7.761	-1.235	-	-	0.683		-0.107	-	-	-0.107	0.58	8.546	2.292
	(2.895)	(-3.244)			(4.767)	-	(-3.313)			(-3.131)			
$C\text{-}M_2$	-1.235	-		-	0.786	-0.113	-0.092			0.181	0.40	4.662	2.008
	(-13.305)				(4.022)	(-2.041)	(-2.544)			(3.119)			
RC	-24.1	-	3.169	-0.618	-0.142	-1.000	-0.040	0.205	14.251	-0.150	0.89	23.517	1.808
	(-3.348)		(4.260)	(-1.247)	(-0.445)	(-4.187)	(-0.553)	(1.040)	(5.298)	(-1.676)			
RC	-16.350	-	2.377	-	-	-0.828	-	0.227	15.289	-	0.90		1.444
	(-3.476)		(4.882)			(-5.083)		(1.7390)	(7.289)				

Note: Figures in parentheses are t-values.

Key:

C-DD = Currency - demand deposit ratio
$C\text{-}M_1$ = Currency - narrow money ratio
$C\text{-}M_2$ = Currency - broad money ratio
YCAP = Income (GDP) per capita
YR = Real income
RIR = Real interest rate
RPFC = Ratio of private final consumption expenditure to total expenditure on GDP
NBCI = Index of number of National Bank of Commerce branches
GVI = Ratio of parastatal employees to total employees, a measure of government intervention
INFL = Inflation rate, as measured by changes in the National Consumer Price Index (NPCI)
ATR = Average tax rate
POER = Ratio of parallel to official exchange rate

Source: Computed

Appendix B: Major variables

Year	OGDP		YCAP	CU	DD	M_1	M_2	INFL	IGDP	RIR	RPFC	NCBI	GVI	ATR	POER
	Nominal	Real			(Tsh million)			%	%	%					
	(Tsh million)														
1968	7182	14479.84	1150.1	528.6	768.8	1297.4	1813.8	15.58	1.39	–12.1	0.790	0.750	0.096	0.032	1.00
1969	7460	14746.00	1140.4	605.0	931.8	1536.8	2193.9	16.44	2.00	–12.9	0.781	0.792	0.136	0.035	1.00
1970	8215	15600.08	1175.6	818.4	860.5	1678.9	2219.6	03.47	4.09	0.03	0.7[illegible]	0.729	0.145	0.037	1.41
1971	8857	16254.36	1192.5	986.4	1072.0	2058.4	2624.4	04.69	3.47	–1.2	0.7[illegible]	0.750	0.161	0.043	1.62
1972	10032	17347.40	1239.1	1201.1	1125.7	2326.8	3089.7	07.69	6.13	–4.2	0.80[illegible]	[illegible].813	0.169	0.044	2.13
1973	11490	17874.92	1243.9	1198.6	1576.1	2774.7	3653.0	10.32	11.15	–6.3	0.806	[illegible].042	0.151	0.048	2.07
1974	14010	18323.31	1241.4	1517.3	1939.0	3456.3	4462.0	19.24	18.94	–15.2	0.844	1.354	0.165	0.059	1.89
1975	16988	19405.99	1267.5	1755.8	2528.0	4283.8	5552.7	26.55	14.49	–22.5	0.834	1.562	0.175	0.064	2.83
1976	21652	21652.00	1328.3	2071.3	3260.5	5331.8	6946.8	06.79	14.23	–2.8	0.710	1.812	0.201	0.059	2.62
1977	25698	21739.28	1284.8	2379.7	4003.1	6382.8	8346.7	11.61	18.21	–7.6	0.699	1.938	0.213	0.061	2.59
1978	28582	22001.38	1288.9	2915.2	3911.7	6826.9	9396.3	06.60	9.90	–1.6	0.817	2.062	0.204	0.064	1.69
1979	32117	22755.42	1301.8	4055.4	6380.0	10435.4	13806.6	18.85	8.64	–7.9	0.794	2.167	0.239	0.069	1.46
1980	37454	23419.00	1302.5	5245.4	8100.5	13345.9	17519.9	30.26	13.31	–25.3	0.867	2.208	0.238	0.072	2.56
1981	43906	23300.96	1262.9	6616.0	8785.2	15401.2	20694.7	25.65	17.82	–19.7	0.844	2.229	0.256	0.070	3.32
1982	52546	23439.20	1238.9	7988.7	10334.5	18323.2	24728.6	28.95	18.97	–21.4	0.804	2.271	0.253	0.069	3.51
1983	62608	22886.39	1167.7	8194.2	12370.1	20564.3	29127.4	27.06	22.03	–19.6	0.880	2.333	0.245	0.064	3.56
1984	78143	23656.04	1171.1	10472.4	10064.7	20537.1	30218.1	36.14	20.75	–28.6	0.878	2.667	0.278	0.058	3.73
1985	108083	24277.95	1172.8	12719.0	112551.2	25270.2	38971.0	33.20	34.77	–23.3	0.862	2.792	0.289	0.054	3.81
1986	140866	25070.03	1176.9	18309.7	17499.8	35809.5	50353.4	32.43	26.21	–22.4	0.903	3.000	0.247	0.051	4.92
1987	200377	26344.94	1202.9	24550.8	22579.8	47130.6	66442.9	29.95	35.36	–8.5	0.874	3.250	0.247	0.049	2.65
1988	285152	27459.91	1220.4	31702.3	33698.7	65401.7	89809.1	31.19	36.53	–9.7	1.092	3.458	0.245	0.050	2.13
1989	335505	28378.04	1228.5	41094.8	41323.9	82418.7	116295.2	25.85	13.85	0.2	1.131	3.729	0.237	0.051	1.74
1990	400719	29368.11	1239.2	57919.1	53165.8	111084.9	166674.8	19.69	15.41	6.3	1.234	3.938	0.231	0.044	1.54

Key: OGDP = official GDP; CU = currency outside banks; IGDP = implicit GDP deflator. The rest of the variables are defined in Appendix A.

Sources: Bureau of Statistics, Bank of Tanzania, United Republic of Tanzania, Planning Commission; Economic Survey (various years), National Bank of Commerce; International Monetary Fund, International Financial Statistics (various years).

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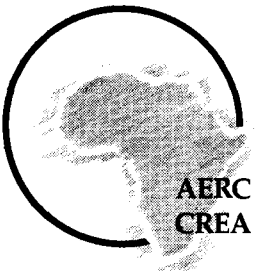

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